Exploring the roles of librarians and health care professionals involved with complementary and alternative medicine*

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Objectives: The researcher conducted qualitative research about the role of health care professionals and librarians involved with complementary and alternative medicine (CAM). The goals were to identify resources these professionals use to explore the librarians' role as well as their approaches to teaching and searching with respect to CAM, to acquire information about CAM education, and to connect with other librarians in the CAM field.

Methods: Semi-structured interviews with open-ended questions were used.

Results: Sixteen health care and information professionals from ten different institutions in Boston, Baltimore, and Calgary were interviewed. Major themes from the interviews were: CAM funding, integration of CAM and conventional medicine, roles of librarians, ''hot'' CAM issues, and information access. Information about four aspects of CAM education—technology, undergraduate, graduate, and continuing—is presented. A wealth of information resources was identified.

Conclusions: A CAM librarian's role is unique; many specialize in specific areas of CAM, and opportunities exist for librarians to partner with CAM groups. CAM information professionals' major roles involve information access and retrieval and education. Further study is required concerning CAM consumer health, integrative CAM and conventional medicine models, and the librarian's role in a CAM environment. CAM funding is a major concern.

BACKGROUND

Although the use of complementary and alternative medicine (CAM) is becoming increasingly more common in North America [1–3], it still is difficult to find high-quality research and information about CAM practices and therapies [4–6]. This dilemma is being addressed by some databases, such as MEDLINE/PubMed as well as Complementary and Alternative Medicine Evidence Online (CAMEOL) <http://www.rccm.org.uk/cameol/>. However, many CAM resources remain in the gray literature and can be difficult to locate. As information professionals, librarians are at the forefront of the movement to make CAM resources and information available to researchers and health care providers.

Excepting Wolf [7], little information has been published about the different roles that librarians and health care professionals have with respect to CAM [4, 5, 8]. To assist with addressing this issue, the Complementary and Alternative Medicine Special Interest Group (CAM SIG) of the Medical Library Association (MLA) promotes the librarians' role in CAM through sponsoring section programs at annual meetings, offering continuing education (CE) courses, meeting in person, and developing bibliographies [9]. The MLA David A. Kronick Traveling Fellowship presented an excellent opportunity to explore the above-mentioned roles further through visiting leading CAM institutions in the United States and Canada. When this research was conducted, the author had accepted a new

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position with a CAM group at a Canadian university and sought to ground understanding of the clinical and educational responsibilities of health care professionals on those that others had already established. This research will add to the literature and provide further information about the role of librarians and health professionals involved with CAM.

OBJECTIVES

The goal of the site visits was to conduct qualitative research about the role of health care and information professionals involved with CAM. The objectives were to identify resources used by experienced CAM centers, to explore librarians' approaches to teaching and searching, to acquire information about CAM educational initiatives, and to connect with other practitioners specializing in CAM.

METHODS

Interviews

Semistructured interviews with open-ended questions were used (Appendix A). If further clarification was required, participants were emailed. Information was aggregated to preserve anonymity, and common themes were developed from the resulting data.

Participants

Sixteen health care and information professionals from ten organizations were interviewed between June 9 and 19, 2004:

- In Boston: Pediatric Integrative Medical Education Project (PIME) <http://www.holistickids.org>, Natural Standard (NS) <http://www.naturalstandard.com>, Division for Research and Education in Complementary and Integrative Medical Therapies <http://www.osher.hms.harvard.edu/home.asp>, Francis A. Countway Library of Medicine, and Massachusetts College of Pharmacy
- In Baltimore: Center for Integrative Medicine (CFIM), Cochrane Complementary Medicine Field (CM Field) <http://www.compmed.umm.edu/cochrane/>, and Consortium of Academic Health Centers for Integrative Medicine (CAHCIM) <http://www.imconsortium.org/html/about.php>
- In Calgary: Centre for Health and Policy Studies (CHAPS) <http://www.chaps.ucalgary.ca> and Canadian Health Network (CHN) <http://www.canadian-health-network.ca>

Participants included six librarians, four physicians, one clinical fellow, one acupuncturist, one epidemiologist, one anthropologist, and two pharmacists who represented institutions, companies, organizations, universities, and research groups. In Boston, some CAM professionals were involved with more than one of the city's organizations, making it unique in its integration efforts across different areas or disciplines.

RESULTS

The interview data are collated by theme into four major sections: ''I. Environment,'' ''II. Education,'' ''III. CAM Resources,'' and ''IV. Roles of Information Professionals,'' with subsections where appropriate. In the first segment, the current situation of CAM is reviewed through exploring CAM issues, perceptions of CAM, and information about the professionals involved in CAM. Following this, four different aspects of education are addressed: technology, undergraduate, graduate, and faculty. These two sections provide a context for the environment in which librarians and other health care professionals are working. In addition, they provide a framework for current issues in CAM. The third section highlights major CAM resources, and the final section focuses on the roles of librarians as CAM information providers.

I. Environment

Although CAM use is becoming widespread among the general public, it is still not prominent in the existing health care system. An information professional observes that ''CAM therapies come up when there is a catastrophic failure of conventional medicine (e.g., hormone replacement therapy, surgery for low back pain—fusing vertebrae).'' He also notes that the integration of CAM into mainstream medicine is happening more in public health than in the hospital or clinical environment. One participant notes that, ''because medical students want to become specialists and leaders in their field, only passionate people look into CAM because it is not a recognized specialty and is still not mainstream.'' This physician defines CAM as a ''global approach to healing. You heal the whole body rather than focusing solely on the problem,'' which is a different approach from conventional medicine. Another physician feels that the learning curve for CAM-friendly physicians is steep and that it can take a while to ''connect things in your head and plot a course for yourself'' (e.g., find your niche). Because many physicians learn CAM ''on the fly'' (e.g., through a weekend course), they need to obtain a solid grounding before beginning their practice.

Funding is a concern for CAM programs and research. For instance, in one program,

> Funding can come and go for each side (e.g., sometimes the clinic has philanthropy funding while the complementary medicine field has none). It is hard to build a program when you have different pieces doing different things at different times, thus, there is a need to connect the various pieces (e.g., conduct a systematic review, then use the information for a patient pamphlet).

Some grant opportunities that provided funding for CAM-related education and research have also been discontinued (e.g., the National Center for Complementary and Alternative Medicine [NCCAM] R25 CAM Education Project Grants program [10]). Thus, stable funding is an issue that needs to be resolved for CAM programs to be successful.

Table 1
Hot complementary and alternative medicine (CAM) issues

General issues	Information/literature	Research	Policy and politics
''Looking at medical literature on CAM and how it tends to reflect certain cultures; who gets funding and who doesn't; does this marginalize certain groups? Racial and class bias in CAM.''	''New methods for evaluating the literature.''	''Quality of CAM research; CAM research is not the same as traditional clinical research.''	''What is philanthropy looking to do (they realize that research is fine and supported by government organizations) true organizational change and change in health care is where it's at.''
''Herbs and dietary supplements: toxicology research, purity, regulation, manufacturing issues, potency, standardization.''	''How is information exchanged between entities (e.g., can my thoughts influence the growth of a plant?).''	''Research ideas; what is new and exciting.''	''Political field in that politics and regulatory environment affect success of clinical programs.''
''Is there a future for CAM academics, what is next since a lot of the leaders will retire?''	''Where is the evidence and how do you access it.''	''How do biological systems communicate and are there cellular interactions that we don't yet know about.''	''Payment for CAM treatment (health insurance); how long can people pay out of pocket for these services.''
''Defining CAM.''	''Horizon scanning.''	''Will the [National Institutes of Health] (NIH) continue to support CAM trials?''	''Professional barriers to the use of CAM in an integrative setting.''
''Education, certification, and credentialing of CAM providers [are] largely unregulated although major movements are now being made in this area.''	''Need to define what is CAM for information professionals to do searches easier.''	''There are a lot of mainstream, big medical institutions competing for CAM money and they have the skills to do a lot of technological study in humans (can you measure real effects and look at results?).''	
''How does religion affect what families do or do not do [with regard to CAM].''	''Applied technology (collaborative global development for workspace).''		

"Hot" complementary and alternative medicine (CAM) issues. Table 1 contains a list of the hot CAM issues participants identified. Some interviewees also elaborated on these concerns:

- ''Therapies that work and are well researched are going to be brought into the standard practice of medicine. This could mean that the intellectual property of that field is taken away from the original practitioners (e.g., medical acupuncturists incorporate acupuncture into their practice but they are not acupuncturists).''
- ''Is there something called CAM as its own specialty with its own specialists or is it a constantly shrinking body of knowledge that is being pulled into conventional medicine and practiced by conventional practitioners?''
- ''So many CAM therapies/modalities operate outside of the traditional diagnosis and treatment model of medicine; they are holistic and designed to keep people healthy. If patients get sick, CAM is designed to nurture the body so it can heal itself. Thus, the two existing models of medicine (CAM and conventional) are diametrically opposed to teach other.''
- ''Patients are interested in CAM because they want health care that looks at them as a whole person and does not view them as an anatomical specimen to be tested, poked, prodded, etc. The public wants a more holistic approach. Hopefully, mainstream medicine will incorporate some of the CAM practitioner patient relationship qualities.''
- ''CAM is not a fad, and doctors should take a more holistic approach to patient care and talk to them about what options are available to them.''
- Perception of CAM providers is an issue (e.g., 95% of hospitals in the United States would not allow a chiropractor to practice in their facility; a nurse can get reimbursed for giving a patient a massage even if she is not a certified massage therapist, a patient receiving treatment from a massage therapist in a hospital would not be reimbursed for it).
- ''Complementary is sort of a myth''; ''acupuncture and herbal medicine operate on a completely different model than surgery and pharmaceuticals.''
- ''Integration is a much bigger challenge than we might think. We need to address the shortcomings in both models, be honest about them, and try to create a new medicine out of the two.''
- ''None of this university's hospitals have policies about dietary supplements (e.g., some confiscate them from patients, some patients use them with their doctor's permission, some allow you to use them and look the other way).''

Other issues mentioned include innovative therapies. For example, one physician identifies hippo therapy (i.e., ''using horses as therapy for children with autism, developmental delay, multiple sclerosis, and cerebral palsy to improve balance and their sense of confidence'') as a novel area requiring further research. Another participant indicates that having safety information about CAM products is important. She notes that ''in Australia, all of the dietary supplements sold are part of a registry, and manufacturers are required to supply toxicology and interaction data into this system. This is not done in the U.S.'' In the clinical realm, creating good models for integrative care was acknowledged as an area needing further investigation. One physician feels that ''identifying the therapies that consumers use will dictate which research can be done.'' Another refers to the ''doctor-patient relationship and doctors' knowledge about a product and how

it affects patients health'' as another important area about which little is known.

II. Education

During the site visits, four aspects of education emerged: a. technology, b. undergraduate education (e.g., medical students), c. graduate education (e.g., residents, fellows), and d. continuing medical education (e.g., faculty). In addition, other aspects of education arose, such as opportunities for collaboration and approaches to teaching CAM.

a. Technology. Technology plays a role in CAM education. For instance, the Holistickids Website contains several sections, notably the Teaching Toolbox <http://www.holistickids.org/teaching_toolbox/downloads.html>, which features documents about common pediatric conditions (e.g., bedwetting), a link to the corresponding chapter in *The Holistic Pediatrician* [11], electronic presentations, and a link to a PubMed search. The American Medical Student Association's Educational Development for Complementary and Alternative Medicine (EDCAM) site contains downloadable CAM lectures, although their quality has been questioned. Some participants think that medical students would prefer to receive (CAM) materials on their personal digital assistants (PDAs). One information specialist notes that, ''if students are given the tools/source material at their fingertips, it will help them to better answer the clinical questions when they are seeing patients.'' However, no participants discuss any specific PDA resources. Kathi Kemper at Wakeforest University has designed an online educational program, the ''Professional Curriculum on Herbs & Dietary Supplements.'' NS also has online projects available for their long-distance students.

b. Undergraduate education. One physician notes that many US medical schools now include some CAM information in their curriculum. While the initiatives to integrate CAM into undergraduate medical education (UGME) are promising, this physician expresses the need to invest in faculty members to obtain ''buy-in'' for presenting CAM in the curriculum. Consequently, faculty who are familiar with CAM will be more likely to support it in the educational program and model it in the clinical setting.

PIME's goal is to integrate CAM into the medical school curriculum instead of having it be ''a tack-on of CAM-related topics.'' In another institution, one physician feels that developing content for ''the talk'' on CAM has been slow and that integrative materials should be added to the existing educational curriculum to make CAM a part of daily learning. Another physician advises that to ''move the CAM agenda forward and teach it to residents,'' it is helpful to have CAM educational material prepared. In an ideal curriculum, CAM would be integrated into the appropriate courses (e.g., biochemistry, neurophysiology) and discussed alongside the conventional approach to medicine. Thus, in both the undergraduate and graduate educational curriculum, there is difficulty integrating CAM although it is present in many educational settings.

c. Graduate education. A fellowship, or subspecialization, is typically completed after residency training, and most programs are accredited by a national body. Currently, the Accreditation Council for Graduate Medical Education (ACGME) does not officially recognize CAM fellows in the United States. Furthermore, many political issues still surround classifying CAM as its own discipline; some physicians think it should be integrated with all specialties. One participant reflects that

> the major problem with accreditation is that what is now considered CAM may in ten years be mainstream. A good example of this is acupuncture. In the past decade, there has been a lot of research into acupuncture and it is not as uncommon for physicians to be a medical acupuncturist or refer patients to an acupuncturist.

Thus, with the continual evolving of the CAM field, it may not become its own certified specialty but continue to influence and modify the existing health care setting.

Despite the issues with accreditation, fellowship programs across the United States are growing. At the time of the interviews, the CAHCIM Clinical Care Working Group was creating a two-year fellowship program. Two interviewed fellows (one current, one former) think that a two-year fellowship would be more beneficial, especially if the physician is new to CAM, and support this initiative. The fellows at Children's Hospital in Boston can take CAM topics as an elective or research project but not as a separate fellowship. The current CAM fellow at Harvard divides her time between PIME and the Osher Institute and is completing a three-year fellowship. This may provide a model for future CAM fellowships at Boston's Children's Hospital.

The integrative fellowship program at CFIM in Baltimore includes visits with practitioners in the community as well as the adult patient care clinic associated with the program. Fellows are ''able to wear both their allopathic (conventional) medicine hat as well as the CAM one.'' As one fellow states, ''I can diagnose the problem and apply both conventional and CAM therapies to it.'' Therefore, accreditation, a longer training period, and the ability to integrate CAM and conventional medicine are important components of CAM fellowships.

d. Continuing education. A variety of opportunities for continuing education are available. For example, PIME runs a faculty development course in CAM at Boston Children's Hospital. Sessions include lectures, and participants try different CAM modalities, such as hands-on yoga, taught by CAM and conventional professionals. Other continuing education includes the CFIM workshop, ''Evidence Based CAM and Pain,'' which involves finding and critically appraising the

scientific literature in CAM. As previously mentioned, the online educational program, ''Professional Curriculum on Herbs & Dietary Supplements,'' is also available.

III. CAM resources

Appendix B contains resources that interviewees recommend for finding information about CAM. Ideally, it would have been informative to present the top recommended resources. However, due to the wide variety of CAM therapies and modalities and the specialties of the interviewed librarians, their recommendations have little overlap.

Most CAM programs and research groups access information resources through their affiliated universities and supplement these with their own subscriptions. Because they are the CAM experts for their institutions, some of the university CAM groups face a dilemma about their role in collecting CAM materials. In some instances, these programs actively acquire materials, but, as one information professional notes, ''there are still a lot [of journals] that we don't have going all the way back'' to the first issue. Conversely, one university library does not actively collect CAM materials, because the librarian feels that access to the collection of CAM resources through the affiliated CAM institute is adequate.

One information professional expresses the concern that ''publishers are out of control.'' Additionally, many CAM journals ''come and go and don't get into a search system.'' Ideally, this professional would like to see the development of a comprehensive indexing service for CAM that searches across databases and ensures that published CAM journals are indexed. Another librarian feels that CAM practitioners and librarians ''just need a way to find things, and this is a field that has not benefited from that.'' Thus, access to and availability of gray resources are major issues.

Librarians search a variety of sources to find CAM materials. One librarian searches the Natural Medicines database and EMBASE for information about herbs and dietary supplements. She mentions that POISINDEX also contains toxicology information on herbal and dietary supplements, ranging from Amazonian potions to contemporary over-the-counter products. For tropical plants, she recommends the Website, Raintree Tropical, ''which is edited by a naturopath and has well-referenced information.'' When searching for toxicology materials, she uses AltMedex in Micromedex, because it contains herb monographs and integrative therapy consults. However, she notes that Micromedex entries are not optimally updated. Another information professional indicates that, by searching the Internet and government catalogs, ''you can find a lot of CAM resources and data in government departments that [are] hidden.'' Thus, depending on the topic, different resources are recommended to find appropriate information.

The Consumer Lab database tests natural health products (NHP) to identify their components and if the listed ingredients match what is written on the label. Consumer Lab is criticized because it only tests products supplied by manufacturers. However, the librarian that discussed this resource felt that this method is better than having no information about NHP. She also mentioned that The Natural Pharmacist is a popular consumer resource and was recently acquired by Consumer Lab.

One information professional searches Google and MEDLINE first to find background information about a CAM problem. Depending on the question, this individual also recommends using EMBASE or a pharmaceutical database. In addition, he gets good results from searching Science Citation Index. After the previously mentioned resources, this information professional recommends using specific databases based on the type of CAM. He rarely searches Allied and Complementary Medicine Database (AMED) as his questions are generally not consumer oriented. Additionally, one interviewee's library is not continuing its subscription to AMED. One librarian questions what AltHealthWatch offers as it contains full text, but the information is directed toward consumers and is ''mostly in brochure format and not based upon evidence.'' Hence, having access to (poor-quality) consumer resources is not imperative for the librarians interviewed.

Information professionals were asked which resources would be on their ''wish list'' if they had the funds to purchase them. One librarian feels that her university has good access to electronic resources and is satisfied with the collection. Many librarians express the need to access EMBASE, which indexes developing topics, such as CAM, that may not be well indexed in other sources. However, the expense of EMBASE prevents their institutions from subscribing. One librarian would like to have a translator for Caribbean remedies. Other resources librarians would like access to include: *Alternative Therapies in Health & Medicine, Focus on Alternative and Complementary Therapies (FACT), Journal of Complementary and Alternative Medicine, Journal of Ethnopharmacology,* and Napralert. One librarian comments that a dictionary of natural products ''costs $6,000!'' and that her library cannot afford to purchase one. The reality is that most of the university libraries providing access to CAM information are competing with other key biomedical areas and are ''not immune from budget cuts.''

IV. Roles of information professionals

CAM librarians and information specialists have a variety of responsibilities including: teaching, searching or information gathering, clinical roles, and involvement with research. Librarians have a primary role in CAM information education, however, one pharmacist does teach students how to search the literature for drug information. One librarian participates in PIME and teaches a nursing continuing education class about finding information on herbs and dietary supplements. Other librarians have provided sessions on finding and evaluating CAM resources to both students and health care practitioners.

One information specialist regularly scans the literature, finds relevant studies, and alerts his team to these (i.e., horizon scanning). Another information professional focuses on information management and infrastructure. He also maintains his group's databases and provides his team with information that is used to make decisions about grant opportunities and maintain currency with CAM evidence. In particular, this information professional scans the interests and grant portfolios of major CAM researchers and observes what the federal government is interested in funding. Another librarian is responsible for gathering information about free CAM resources and posting them on a Website.

Some librarians also discuss their clinical roles. One has recently started to undertake clinical librarianship and attends the morning report weekly ''at the mercy of the chiefs'' (i.e., chief residents); she only attends at their request. She usually searches for information about troublesome cases. However, she does these searches only in pediatrics, and the other librarians in her library do not provide this service. One information professional attends the CAM clinic ''mostly to deal with computer issues.'' Another librarian manages the CAM clinic's Website and public information dissemination.

A few information professionals in libraries partner with CAM researchers in their institutions to work on specific projects or research. One has participated in a study about gingko biloba, and another is involved in a systematic review on botanical trials. Another librarian mentions being involved with conducting research but does not discuss the specifics.

Not only do librarians need to find information, they also need to maintain currency with the literature. Information professionals were asked about their role in selective dissemination of information (SDI). One librarian has set up SDI searches for her team on Ovid, and the results are regularly emailed to a distribution list. Librarians also frequently email CAM information they receive to their teams and clients. One information professional ''used to do this more often'' and would like to start the SDI process again. Most librarians regularly scan the literature to identify new research. One librarian uses stored searches that run every time Ovid is updated. Her searches include herbs and supplements as well as the ethnic and cultural uses of traditional medicine. One of the pharmacists uses Pharmacy One and quosa.com, which her library subscribes to. Quosa.com searches PubMed, provides full-text articles from the library's electronic journals, and stores these articles on a patron's local hard drive according to topic. Another information professional monitors email discussion lists. Some also review Clinicaltrials.gov to find out what research has been funded. In addition, one information professional has created database filters based on his institute's strategic interests, because ''they must be selective based upon what they spend most of their time doing.''

In one institution, the team members track CAM developments through personal communication, keeping them current with newly published information. The staff in one information professional's institute are ''very up in their area and know about papers before they're published.'' They often ask him to retrieve these articles. This librarian is not worried that any major papers are being missed. He also reads the free physician papers that cover the scientific conferences, as ''you can find out more about what's going on through the reports about the scientific meetings; find out what is 'hot.''' He also uses *FACT,* Medscape, WebMD, and other electronic updating services. Some librarians provide a means to access the information their groups hold. For example, the Massachusetts College of Pharmacy has a catalog of CAM resources in its library and CFIM has an internal catalog accessible to staff.

Not only do librarians provide or have access to CAM resources, they also evaluate them. One librarian has developed evaluation skills and knowledge from working with the Longwood Herbal Task Force. Some librarians also use the Iowa Division of Drug Information Service site to help rate Websites. Another information professional uses the following criteria: who are the sponsors and authors, how current is it, do they subscribe to the Health on the Net (HON) code (or other quality certification), are the included items referenced, where is it indexed, and does the university have access to these indexes. Some groups do not have a formal mechanism for evaluating resources and try to collect as much information in their specialty area as possible, regardless of its quality.

One of the most important issues with accessing information about CAM is search strategies. One information professional has previously built CAM thesaurus terms and uses technology to match subject headings and free-text terms to material in an existing database. As previously mentioned, others search a wide variety of resources using search strategies specific to their area of specialization.

When asked who their primary CAM clientele are, information professionals indicate: physicians, nurses, external groups, researchers, consumers, CAHCIM members, philanthropic funders, and private business. Some information professionals discuss consumers and CAM. The Massachusetts General Hospital (MGH) has two libraries that focus on consumer health information. One librarian who works in a cancer center finds that cancer patients are the most vocal users of CAM. She indicates that her ''patients are desperate for information about CAM and have many conditions that normal therapy hasn't worked for; they do not want to go the chemical route.'' The CM Field provides seminars to educate consumers about systematic reviews. As discussed above, most of the librarians do not have a major focus on consumer health.

DISCUSSION AND CONCLUSIONS

The site visits helped to build relationships and foster communication among different North American CAM programs. Meeting with librarians and other

health professionals in Boston, Baltimore, and Calgary allowed the exchange of valuable knowledge and information. It was beneficial to discover the lessons learned and achievements of other CAM programs. However, based on the information collected, it is difficult to arrive at definitive results from this qualitative research.

Because CAM is a developing field, participants had concerns about how and if it should be integrated into the existing health care environment. Health care providers have questions about how to define CAM (e.g., is a chiropractor a CAM provider?) and the perceptions of (nonregulated and noncertified) CAM providers. Information professionals are also interested in access to resources, evaluation of CAM literature, and quality of CAM research.

Similar to other librarians, the major roles of CAM information professionals involve information access and retrieval as well as education. As information experts, librarians provide education about CAM resources and access to information. They also actively collect and house CAM information resources for their colleagues.

While resources exist to help answer CAM questions, they are scattered and varied. Participants discuss forty-two different journals, databases, books, and Websites. PubMed indexes only selected mainstream, peer-reviewed journals, and many CAM resources are found in the gray literature. Although the librarian's major role is to find CAM information, because of the subspecialties in and the variety of CAM, it is difficult to standardize the searching process, although PubMed has attempted to through its Complementary Medicine subset. Institutions cannot afford subscriptions to key resources such as CAM dictionaries and EMBASE, which means that essential information may be missed when conducting searches. It is important that information and health care professionals interested in CAM have access to high-quality information resources. However, the resources are scattered, of questionable quality, and expensive. Furthermore, each CAM subspecialty requires access to different sources, meaning that the commonly used resources have little overlap.

Several important areas for further research emerge from the collected data. First, further study needs to be conducted in the area of CAM consumer health. In addition, more needs to be done about the study and creation of models for integrating CAM and conventional medicine. Interestingly, most librarians do not mention that much of the CAM literature is available in languages other than English. This either means that they find enough relevant information in the English literature or that they have the means to translate non-English research.

Most significantly, the librarian's role in the CAM environment is unique. Many of the interviewed information professionals are specialists, rather than generalists, who typically focus on specific areas of CAM rather than the field as a whole. Numerous opportunities exist for librarians to partner with and provide their information-seeking expertise to CAM organizations and programs.

Even though CAM is popular among the general public and there is evidence of its increasing use, funding for CAM research, education, and clinical initiatives is still a major concern. The growing use of CAM and lack of research and information about its therapies and practices is a paradox. Librarians have the ability to become leaders in making CAM information available and accessible.

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APPENDIX A

Sample interview questions

General

1. What is the title of your position?
2. What is your role in this position? Or what are your major responsibilities?

3. How did you obtain your experience or gain expertise in complementary and alternative medicine (CAM)?
4. What is your job title?
5. Do you have an affiliation or relationship with other librarians or the library school? Do you teach any courses at the library school?
6. As an information professional, do you face any barriers? If so, what are they?

Clinic/complementary and alternative medicine (CAM) team

7. Do you work with staff in the CAM clinic? If so, what is your role?
8. What are the professions of the members of your team? Has this changed in the last two years (i.e., since the last site visit)?

Information/resources

9. What would you regard as the ''hot'' CAM issues for information professionals?
10. Who is/are your primary clientele (physicians, consumers, health care workers, etc.)?
11. Do you provide consumer information? If so, what type of information do you provide?
12. Do you have an online catalog or repository of resources for CAM?
13. Which databases do you recommend for searching for CAM information?
14. How or where do you search for information for CAM questions?
15. Do you have a wish list of resources you would like to have access to?
16. Where do your find your evidence?
17. What is your role in providing evidence to clinical, research, or educational clinicians/people?
18. What resources does your center have access to? How does it access them (your own subscription, through the university, other)?
19. How comfortable are you with finding information and the levels of evidence that exist?
20. How do you keep up with the literature in CAM?
21. Do you provide selective dissemination of information (SDI) for your clientele?
22. How does your library evaluate different information resources such as the Internet, Websites, journals, databases, etc.?
23. Which resources do you use most often to obtain information? Which ones do you find to be most reliable?
24. What kinds or types of information are your clientele looking for?

Education

25. How do you teach about CAM resources? If so, do you have a copy of the information you teach?
26. Do you provide continuing education? If so, do you have a copy of the information you teach?
27. Do you have any common questions that you have done cases for that you use to teach?
28. What types of educational training do you provide for practitioners, medical students, residents, fellows, other? How is this set up?
29. Do you have any teaching documentation you are willing to share?
30. Do you use any tools to evaluate your teaching? If so, may I have a copy?

Research

31. Are you involved with any research? If so, what role do you play (librarian, investigator, etc.)?
32. Do you teach? If so, do you have regular courses or slides that you use?

APPENDIX B

Recommended CAM resources

Databases:
- Allied and Complementary Medicine Database (AMED), http://www.bl.uk/collections/health/amed.html
- AltHealthWatch, http://www.epnet.com/TitleLists/html/aw_h1.htm
- AltMedDex (in Micromedex), http://www.micromedex.com/products/altmeddex/
- ARCAM, University of Maryland School of Medicine, http://www.compmed.umm.edu/Databases.html
- British National Formulary, http://www.bnf.org/bnf/
- CAMPAIN, University of Maryland School of Medicine, http://www.compmed.umm.edu/Databases.html
- Consumer Lab Database, http://www.consumerlab.com
- EMBASE (Excerpta Medica), http://www.embase.com
- International Bibliographic Information on Dietary Supplements (IBIDS), http://ods.od.nih.gov/Health_Information/IBIDS.aspx
- MEDLINE/Pubmed, http://www.pubmed.gov
- Napralert, http://www.ag.uiuc.edu/~ffh/napra.html
- Natural Medicines Comprehensive Database, http://www.naturaldatabase.com
- POSINDEX, http://www.micromedex.com/products/poisindex/
- Science Citation Index, http://www.isinet.com/products/citation/sci/

Journals:
- *Alternative Therapies in Health & Medicine Journal,* http://www.alternative-therapies.com
- *Focus on Alternative and Complementary Therapies (FACT),* http://journals.medicinescomplete.com/journals/fact/current/?a=1&
- *Journal of Alternative and Complementary Medicine,* http://www.libertpub.com/publication.aspx?pub_id=26

Books:
- *Complementary Therapies on the Internet: A Guide for Health Professionals,* http://www.elsevier.com/wps/product/cws_home/695302/

- *Herbal Medicines: A Guide for Healthcare Professionals*, http://www.ramex.com/title.asp?id=8436
- *Martindale: The Complete Drug Reference*, http://www.ovid.com/site/catalog/Book/1784.jsp?top=2&mid=3&bottom=7&subsection=11

Websites:

- Boston Health Landscape Project, http://www.bmc.org/pediatrics/special/bhlp/
- Complementary and Alternative Medicine, National Cancer Institute, http://www.nci.nih.gov/cancertopics/treatment/cam/
- Clincaltrials.gov, http://www.clinicaltrials.gov
- Dietary Supplement Education Alliance (DSEA), http://www.supplementinfo.org/aboutus/dsea.htm
- Educational Development for Complementary and Alternative Medicine (EDCAM), American Medical Student Association, http://www.amsa.org/humed/CAM/
- Georgetown University Medical Center, School of Medicine, http://data.georgetown.edu/som/student/cam.html
- Google, http://www.google.com
- HerbaLinks, http://www.uiowa.edu/~idis/herbalinks/
- Holistickids, http://www.holistickids.org
- Integrative Medicine Center at Griffin Hospital, http://www.imc-griffin.org
- Iowa Division of Drug Information Service, http://www.uiowa.edu/~idis/
- Longwood Herbal Task Force, http://www.mcphs.edu/herbal/
- Medscape, http://www.medscape.com
- National Center for Complementary and Alternative Medicine, http://www.nccam.nih.gov
- National Institute on Aging, http://www.nia.nih.gov
- National Institute of Arthritis and Musculoskeletal and Skin Diseases, http://www.niams.nih.gov
- Natural Pharmacist, http://www.tnp.com
- New England Research Institute, http://www.neriscience.com
- National Foundation for Alternative Medicine, http://www.nfam.org
- Pharmacy One, http://www.pharmacyonesource.com
- Professional Curriculum on Herbs & Dietary Supplements, http://northwestahec.wfubmc.edu/learn/herbs/
- Quosa, http://www.quosa.com
- Raintree Tropical Plant Database, http://rain-tree.com/plants.htm
- University of Texas Medical Branch in Galveston, http://www.utmb.edu
- WebMD, http://www.webmd.com